

Human Engineering Modeling And Performance Lab Study Project

Center Independent Research & Developments: KSC IRAD Program
Office Of The Chief Technologist (OCT)

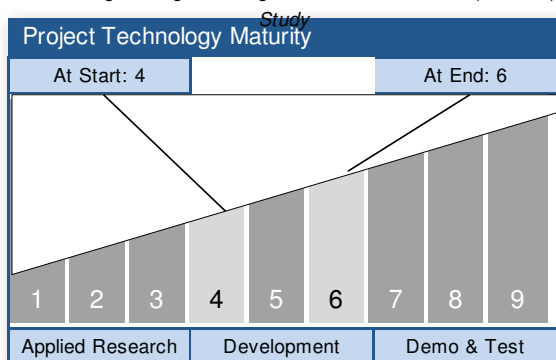
National Aeronautics and
Space Administration



ABSTRACT

The HEMAP (Human Engineering Modeling and Performance) Lab is a joint effort between the Industrial and Human Engineering group and the KAVE (Kennedy Advanced Visualizations Environment) group. The lab consists of a sixteen-camera system that is used to capture human motions and operational tasks, through the use of a Velcro suit equipped with sensors, and then simulate these tasks in an ergonomic software package known as Jack. The Jack software is able to identify the potential risks/ ...**Read more on the last page.**

Human Engineering Modeling And Performance Lab (HEMAP)



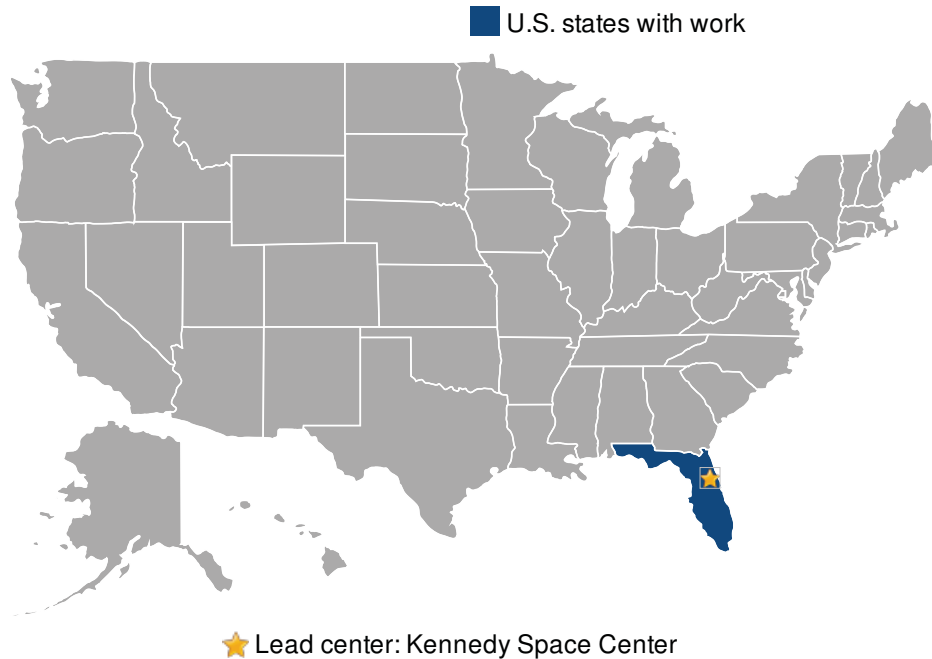
Technology Area: Modeling, Simulation, Information Technology & Processing TA11 (Primary)
Human Health, Life Support & Habitation Systems TA06 (Secondary)

ANTICIPATED BENEFITS

To NASA funded missions:

Improved ground processing for missions for improved human performance.

Read more on the last page.



DETAILED DESCRIPTION

The HEMAP (Human Engineering Modeling and Performance) Lab is a joint effort between the Industrial and Human Engineering group and the KAVE (Kennedy Advanced Visualizations Environment) group. The lab consists of a sixteen-camera system that is used to capture human motions and operational tasks, through the use of a Velcro suit equipped with sensors, and then simulate these tasks in an ergonomic software package known as Jack. The Jack software is able to identify the potential risks and hazards to the human worker that are associated with performing specific tasks. Once risks are identified then the HEMAP team may offer recommendations and solutions to creating more worker-friendly tasks. The idea of our role in this particular research is to merge biomedical monitoring and information into the HEMAP model. Potential HEMAP Model Benefits: Reduce costs at initial stages of task/system design Reduction in redesign and modifications to existing tasks/systems Design tasks to provide safe work environments and efficient work processes Provide actual data/metrics to support identified high-risk task improvements and provide additional support in determining implementation.

MANAGEMENT

Program Manager:

Nancy Zeitlin

Project Manager:

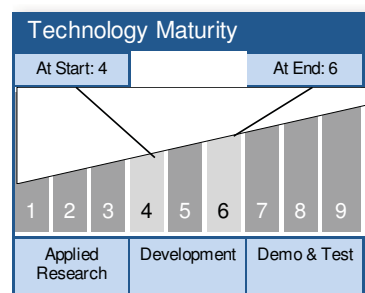
Nancy Zeitlin

Principal Investigator:

David Bush

TECHNOLOGY DETAILS

Human Engineering Modeling And Performance Lab (HEMAP) Study



TECHNOLOGY DESCRIPTION

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This technology is categorized as a hardware system for other applications

- Technology Area
 - TA11 Modeling, Simulation, Information Technology & Processing (Primary)
 - TA06 Human Health, Life Support & Habitation Systems (Secondary)
 - TA13 Ground & Launch Systems Processing (Additional)

CAPABILITIES PROVIDED

HEMAP model is to improve design, performance and safety of ground processing tasks.

HEMAP model is to improve design, performance and safety of ground processing tasks.

IMAGE GALLERY



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ABSTRACT (CONTINUED FROM PAGE 1)

hazards.

